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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,040	06/14/2001	Eiichi Hatae	2001_0749A	5949

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EXAMINER	
FLETCHER, JAMES A	
ART UNIT	**PAPER NUMBER**
2621	

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,040	HATAE ET AL.	
	Examiner	Art Unit	
	James A. Fletcher	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-13 and 21-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-13 and 21-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

New Art Unit

1. Please include the new Art Unit 2621 in the caption or heading of any written or facsimile communication submitted after this Office Action because the examiner, who was assigned to Art Unit 2616, will be assigned to new Art Unit 2621. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 June 2006 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 7 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 11 and 25 recites the broad recitation "the adjusted running time being adjusted according to a ratio of the compression bit rates to the standard bit rates," and the claims upon which they depend also recites "the total time period for which recording is possible is obtained by first subtracting the estimate error value from a capacity of the recording medium and then by dividing the subtraction result by the standard bit rate," which is the narrower statement of the range/limitation.

To explain further, the Applicant's Representative has made explicit arguments that the instant invention does not calculate remaining recording time by using an average incoming bit rate, to wit, page 7 of the arguments presented with the amendment, and that the remaining recording time calculations are performed using a predetermined fixed estimate of the incoming bit rate. The expanding limitations of claims 11 and 25 clearly conflict with this explicit explanation of the intent of the instant invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 7-13 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al (WO92-22983), and further in view of Kikuchi et al (6,577,812), and further in view of Kawai (4,959,735).

Regarding claims 7 and 21, Browne et al disclose a remaining recordable time calculation apparatus for calculating remaining recordable time of a recording medium (Fig 3, item 305 "Auto Recording Storage Allocation" shows a calculation of remaining recordable time), the recording medium containing one or more video streams (Page 3, lines 5-7 "storage means...for simultaneously storing the plurality of received transmission signals") and corresponding management information (Page 25, lines 13-14 "titles or other information for programs are broadcast with the program"), and the

one or more video streams being compressed when recorded on the recording medium (Page 11, lines 22-23 "It is desirable to permit direct storage of pre-compressed data") comprising:

Browne et al are silent on the details of their determination of remaining recording time.

Kikuchi et al teach a remaining recordable time calculation apparatus comprising:

- management data read means and unit for reading, from the recording medium, running time of the one or more video streams (Col 25, lines 36-39 "The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames");
- total time holding means and unit for holding a total time period for which recording is possible on the recording medium, (Col 21, lines 1-3 "in case of single-sided DVD-RAM disc having a storage amount of 2.6 GB, information indicating 2.6 GB is written at the byte position '17 to 20' in FIG. 6"), wherein the total time period for which recording is possible is obtained by first subtracting an estimate error value from a capacity of the recording medium, and then by dividing the subtraction result by a standard bit rate (Col 61, lines 54-58 "as a result of various simulations of timer recording, if it is determined that remaining time calculated value Tr includes an error of a maximum of 10%, the amount 10% of the remaining amount can be set as the auxiliary amount" and Col 45, lines 28-31 "when this remaining amount is divided by

the average recording rate, the remaining time...of disc 10 can be determined"),

- wherein the estimate error value estimates at least one of an estimate error occurring during compression of a video stream, and a size of an unrecordable area inherent in the recording medium (Col 61, lines 54-58 "as a result of various simulations of timer recording, if it is determined that remaining time calculated value Tr includes an error of a maximum of 10%, the amount 10% of the remaining amount can be set as the auxiliary amount"), and the standard bit rate is a bit rate used in compressing a video stream to be recorded on the recording medium (Col 45, lines 28-31 "when this remaining amount is divided by the average recording rate, the remaining time...of disc 10 can be determined"); and
- time calculation means and unit for calculating the remaining recordable time by subtracting the running time of the one or more video streams read by management data read means and unit from the total time period for which recording is possible (Col 45, lines 23-28 "By subtracting the recorded data amount...from the free space...of disc 10, the remaining amount...of disc 10 can be determined").

As taught by Kikuchi et al, calculating available recording time on a medium by determining a potential error rate, subtracting the potential error from the total available storage area, also subtracting the already used area from the total area to provide a

recordable area, and finally dividing that area by a potential rate that it will be used, provides the user with a safe prediction of available recording time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Kikuchi discloses calculation of a standard bit rate by observing the incoming data rate over a period of time.

Kawai teaches the storage of a standard bit rate to be used in calculating the remaining time of an input audio signal (Col 6, lines 44-47 "The audio signal recording time counter is preset at a counted value corresponding to the compression rate set at the steps #16 to #20-2").

As taught by Kawai, the use of a preset rate in the computation of available recording time is well-known, removing computational burden from the processor, resulting in a savings in power and complexity, and therefore, in cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination in order to provide a preset bit rate for use in calculating remaining available recording time.

Regarding claim 8 and 22, Browne et al disclose a remaining recordable time calculation apparatus further comprising display means and unit for displaying the remaining recordable time calculated by the time calculation means, wherein the display means displays a ratio of the remaining recordable time calculated by the time calculation means, to the total time period for which recording is possible in a graphical

form (Fig 3, item 305a is a graphical representation of the ratio of the available storage and the amount already recorded).

Regarding claim 9 and 23, Browne et al disclose a remaining recordable time calculation apparatus further comprising instruction receiving means and unit for receiving a user selection of a video stream out of the one or more video streams (Page 8, lines 18-21 "a user can select a program for storage listing and retention after viewing the program, or the choice can be made while the program is being viewed"), and display means for displaying the remaining recordable time calculated by the time calculation means, wherein the display means displays a ratio of the running time of the selected video stream to the total time period for which recording is possible in a graphical form (Fig 3, item 305a is a graphical representation of the ratio of the available storage and the amount already recorded).

Regarding claim 10 and 24, Browne et al disclose a remaining recordable time calculation apparatus further comprising stream decoding means and unit for decoding a compressed data of the video stream (Page 14, lines 10-12 "one of the decompressors 106a-106d decompresses a selected stored program"), wherein the display means further displays an image of the video stream decoded by the stream decoding means (Page 16, lines 21-24 "analog outputs...may be set in the setup page 300 to receive programs from storage section 104").

Regarding claim 11 and 25, Browne et al are silent on the details of their determination of remaining recording time.

Kikuchi et al teach a remaining recordable time calculation apparatus,

- wherein the management data read means and unit further reads compression bit rates recorded in one to one relation with the running time of each of the one or more video streams (Col 50, lines 22-23 "the instantaneous value of the recording rate that changes time by time can be obtained"),
- and wherein the time calculation means and unit obtains remaining recordable time by subtracting adjusted running time of each of the one or more video streams from the total time period for which recording is possible, the adjusted running time being adjusted according to a ratio of the compression bit rates to the standard bit rate (Col 50, lines 28-30 "The 'remaining time' may be calculated using the instantaneous recording rate in place of the average recording rate").

As taught by Kikuchi et al, calculating available recording time on a medium by reading the bit rates of the stream and calculating the available recording time using that bit rate as a factor, provides the user with a safe prediction of available recording time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Regarding claim 12 and 26, Browne et al are silent on the calculation of remaining time process.

Kikuchi et al teach a remaining recordable time calculation apparatus comprising a management data write means and unit for writing running time of a video stream to be added and a corresponding compression bit rate to the recording medium as the management data (Col 25, lines 36-39 "The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames" and Col 16, line 53 "system header 111 describes a bit rate and stream ID"),

- wherein the management data read means reads out the running time of the video stream and the corresponding compression bit rate written by the management data write means (Col 3, lines 33-38 "calculating the remaining recordable time on the medium on the basis of the free space and variable recording rate; and...displaying the variable recording rate and the remaining recordable time at that variable recording rate on the basis of the result of the remaining recordable time calculation process").

As taught by Kikuchi et al, calculating available recording time on a medium by determining a potential error rate, subtracting the potential error from the total available storage area, also subtracting the already used area from the total area to provide a recordable area, and finally dividing that area by a potential rate that it will be used, provides the user with a safe prediction of available recording time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Regarding claim 13 and 27, Browne et al are silent on the calculation of the remaining recording time.

Kikuchi et al teach a remaining recordable time calculation apparatus wherein the running time of the video stream is included in management information generated in accordance with a recorded standard of the recording medium (Col 25, lines 36-39 "The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames").

As taught by Kikuchi et al, providing a running time of a program being recorded on a finite medium, along with an available remaining recording time estimate, provides the user with information that can be used to determine if a recording will fit on the medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF
1 August 2006

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